

SAFETY DATA SHEET

1 COMPOSITION / PREPARATION AND ENTERPRISE

1.1 Identity : **DYNA EFM Alloy**
Dental noble casting material for root caps

1.2 Company : DYNA DENTAL ENGINEERING BV
P.O. Box 70
4600 AB Bergen op Zoom
The Netherlands

1.3 Information Telephone: +31 (0)164 258980

2 COMPOSITION / INFORMATION OF THE INGREDIENTS

Chemical composition:	Palladium:	60%
	Cobalt:	36.8%
	Platinum:	1%
	Other elements:	2.2% (Ga, Cr, Fe, B, etc.)

The alloy does not contain any hazardous elements like Nickel, Beryllium or Cadmium

3 POSSIBLE HEALTH HAZARDS

3.1 Direct contact: No proven effect

3.2 MAK-value: N/A

3.3 Carcino-genicity: No proven effect

4 FIRST AID PROCEDURE

Inhalation: Not possible

Skin contact: No proven effect

Ingestion: If swallowed, consult a doctor

5 FIRE AND EXPLOSION HAZARD DATA

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Material is non-combustible

6 MEASURES IN CASE OF ACCIDENTAL RELEASE

None

7 HANDLING AND STORAGE

7.1 Handling: No protective measures required in condition as delivered.

7.2 Storage: No protective measures required in condition as delivered

7.3 Fire and explosion protection: N/A

8 EXPOSURE / PERSONAL PROTECTION

N/A

9 PHYSICAL AND CHEMICAL CHARACTERISTICS

9.1 Appearance/Colour: Metallic

9.2 Odour: Odourless

9.3 pH-value: N/E

9.4 Melting interval: 1195-1210°C

9.5 Flash point: N/A

9.6 Explosion hazard: N/A

9.7 Solubility in water: Insoluble

10 STABILITY AND REACTIVITY DATA

10.1 Stability: No decomposition takes place if used as prescribed.

10.2 Hazardous reactions:
The alloy reacts with carbon and oxygen, while in liquid state. Resulting

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material is non-hazardous. Read manual for further instructions

10.3 Hazardous decomposition products: No hazardous decomposition products are known

11 INFORMATION ON TOXICITY

11.1 Ingestion: Caustic damage to the digestive system

11.2 Inhalation: No toxic risks

11.3 Skin contact: No proven effects

12 INFORMATION ON ECOLOGICAL EFFECTS

No particular measures required

13 INSTRUCTIONS FOR DISPOSAL

Observe official regulations

14 TRANSPORT

14.1 Land transport: Non hazardous goods

14.2 Air transport: Non hazardous goods

14.3 Offshore water: Non hazardous goods

15 REGULATIONS

15.1 Risk symbol(s): N/A

15.2 R-phrases: N/A

15.3 S-phrases: N/A

16 FURTHER INFORMATION

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The Dyna EFM Alloy has been proven non-cytotoxic, non-sensitave, non-carcinogenic and non-allergenic by tests according to ISO 10993 standards.

The alloy interferes with magnetic fields, however not harmful to patient or operator. If MRI or NMR photographs of the head and neck region are taken, it is advised to take out the alloy products, if possible, because they can damage the pictures. Research on this subject is available on request.

Further properties:

Vickers hardness	±	295 HRc
Yield strength	±	800 N/mm
Yield strain	±	15 %
Density	±	10,0 g/cm ³
Thermal exp. coefficient (20-600°C)	±	14,0.10 ⁻⁶ °C ⁻¹
Preheating temperature		850 °C (1560°F)
Thermal + casting expansion	±	1,9 %
Casting temperature	±	1350 °C (± 2460°F)
Melting interval	±	1195-1210 °C (± 2180-2210 °F)
Soldering temperature	±	1060 °C (± 1940°F)
Magnetic permeability	μ	240
Magnetic induction	B	10.0 kG
Remanence	Br	3 kG
Coercivity (Magnetic Field)	Hc ±	455 A/m

Abbreviations:

N/E: Not Established; N/A: Not Applicable.